

Application No. 10/602,284
Reply to Office Action of October 15, 2004

REMARKS

After the foregoing Amendment, claims 9-13, as amended, are pending in this application. Claims 1-8 and 14-17 have been withdrawn by the Examiner. Applicants submit that no new matter has been added to the application by the Amendment.

Telephone Interview

Applicants wish to thank the Examiner for the courtesy of the telephone interview conducted on January 12, 2005 in which Applicant's attorney of record presented arguments for how the claimed invention differed from the applied art. The Examiner stated that the arguments would be considered upon submission of a Request for Continued Examination.

Rejection - 35 U.S.C. § 103

The Examiner rejected claims 9-12 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,633,740 (Estabrooks) in view of U.S. Patent No. 6,557,795 (Ohshio et al.) and further in view of U.S. Patent No. 5,008,710 (Kobayashi et al). The Examiner states that Estabrooks discloses all the elements of claim 9 except for a rewind to cause a trailing edge and a leading edge of each successive sheet received by the rewind to abut one to the other on the rewind. The Examiner further states that Ohshio et al. teaches a rewind (for vincer) and that Kobayashi et al. teaches a rewind that receives printed-on sheets of print media. Applicant respectfully traverses the rejection.

Claim 9 recites:

9. *A system for continuous printing, the system comprising:*

a sheet printer which receives sheets of print media and outputs printed-on sheets of the print media;

an edge sensor which senses a leading edge of each of the printed-on sheets when output from said printer;

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*a rewind which receives the printed-on sheets
output from said printer; and
a controller which receives an output signal from
said edge sensor indicating the detection of the leading edge and
synchronizes, based upon the output signal, said sheet printer and
said rewind to cause a trailing edge and the leading edge of each
successive printed-on sheet received by said rewind to abut one to
the other on the rewind.*

The Examiner in rejecting claim 9 states that Estabrooks discloses a sheet printer, a controller and an edge sensor 32, 40 which senses a leading edge of each of the printed on sheets when output from the printer.

Applicant submits that neither sensors 32 or 40 sense a leading edge of each of the printed-on sheets when output from the printer as recited in claim 9. The sensor 40, identified as the registration roll nip sensor 40, is shown in Fig. 2 and described at col. 11, lines 38-39 as being located at the nip 43 adjacent to the lower registration roll 18 and the upper registration roll 19. As shown in Fig 3, the upper and lower registration rollers 18, 19 are located between the media feed roller 10 and the photosensitive drum 25. The photosensitive drum 25 applies the image to be printed on the advancing sheet. Clearly, the registration roll nip sensor 40 is located prior to the point where print is applied to the print media and thus can not possibly sense a leading edge of a printed-on sheet when output from the printer.

Sensor 32, is shown in Fig. 3 adjacent to the toner fuser roll nip 81. The sensor 32 is identified in a list of reference numerals at col. 10 line, line 31 as a printout exit sensor 32. No further reference to sensor 32 is made in the application. However, at col. 5, lines 27-29 a fuser exit sensor is described. A reading of col. 5, lines 21-30 makes it clear that the fuser exit sensor is the same device as the printout exit sensor 32. The fuser exit sensor is described at col. 5, line 29 as detecting the trailing edge of the print media and not the leading edge of the print media. Thus sensor 32, although located at the output of the printer, fails to detect a leading edge of a printed on sheet, as recited in claim 9. Further, a thorough reading of Estabrooks fails to disclose any sensor other than the fuser exit sensor as being located at a point at which the presence of a printed-on sheet is sensed when output from the printer. Consequently, since claim

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9 recites "an edge sensor which senses a leading edge of each of the printed-on sheets when output from said printer", Estabrooks fails to disclose, teach or suggest all the limitations of claim 9 except for the rewind.

Ohshio et al., cited by the Examiner for teaching a rewind that abuts one sheet of veneer to another, is directed to a veneer reeling apparatus in which veneer sheets are sequentially wound on a take up reel such that spatial intervals between the sheets arranged end-to end are narrowed under consideration of winding efficiency (see Fig. 4 and col. 15, lines 13-19). The Examiner states that it would be obvious for one skilled in the art at the time the invention was made to modify the teaching of Estabrooks to include a rewind to cause a trailing edge and the leading edge of each successive sheet received by the rewind to abut one to the other, since Ohshio et al. teaches "narrowing the spatial intervals between sheets arranged end to end in the winding which means minimizing the space between the sheets which could lead to abut the sheets one to the other.

To establish *prima facie* obviousness of a claimed invention, all the claimed limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974), MPEP §2143.03. The mere fact that the prior art could be modified in the matter proposed by the Examiner does not make the modifications obvious unless the prior art suggests the desirability of the modification. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), MPEP 2143.01, May 2004.

Applicant submits that construing the teaching, by Ohshio et al., of narrowing the spatial intervals to include abutting the leading and trailing edges of the sheets one to the other is clearly beyond the teachings of Ohshio et al. Ohshio et al. merely teaches that the spatial intervals between the sheets are narrowed under consideration of winding efficiency and does not teach or suggest abutting the leading and trailing edges of the sheets of veneer one to the other. Applicant submits that even if the Examiner's suggestion that narrowing the spatial interval "could lead to abut the sheets", that is not a teaching or suggestion by Estabrooks to abut the sheets, as required by MPEP 2143.03. Further, Applicant submits that the Examiner's

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statement that minimizing the space between the sheets could lead to abutting the sheets is a clear admission that there is no teaching by Ohshio et al. to abut the sheets.

Also, there is no teaching by Ohshio et al. that it would be desirable to abut the leading and trailing edges of the veneer sheets. In variance to such a teaching, Fig. 4 clearly shows that the "narrowed spatial intervals" taught by Ohshio et al. could be at least as great as 1/3 of a revolution of the rewind.

Further, Applicant submits that the structure disclosed by Estabrooks for winding the veneer sheets on the rewind would not be suitable for abutting each sheet successive sheet one to another. One skilled in the art, would easily understand by examining Figs. 5 and 7 that the control means disclosed by Ohshio et al. would not provide the degree of precision required for abutting the sheets of veneer, considering the size variations of the cut veneer sheets due to cutting tolerances, the inertia of the conveyor and the rewind for starting and stopping, and the unaccounted-for change in the diameter of the rewind surface that would result in required changes of the timing between the conveyor and the rewind. Thus, in addition to Ohshio et al. not expressly teaching that the sheets are abutted one to the other, or that it would be desirable to abut the sheets, Ohshio et al. does not disclose a structure that would provide the precision necessary for abutting the sheets of veneer. Accordingly, one of ordinary skill in the art, with Ohshio et al. before him would not find it obvious to modify the teachings of Ohshio et al. to make the space zero between each successive sheet on the rewind.

Finally, Applicant submits that claim 9 recites "abutting each sheet". The mere fact that the apparatus disclosed by Ohshio et al. might occasionally abut two sheets together at random, does not allow the teaching by Ohshio et al. of narrowing the spatial intervals to be extended to a teaching of abutting the leading and trailing edges of each sheet one to the other. Regardless of the fact that Ohshio et al. teaches a rewind for veneer and not print media, and does not teach abutting the leading and trailing edges of the sheets of veneer one to the other, the Examiner states that it would be obvious to modify the teachings of Estabrooks with the teachings of Ohshio et al. Applicant first submits that there is no teaching or suggestion in Estabrooks to incorporate a rewind, such as disclosed by Ohshio et al., with the sheet printer

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disclosed by Estabrooks. Estabrooks merely teaches printing and outputting short printouts of a desired controlled length and does not teach or suggest that the output print media is to be stored on a rewind. Similarly, there is no teaching or suggestion in Ohshio et al. to apply the technique for rewinding veneer sheets to the sheet printer of printed-on media as disclosed by Estabrooks.

Further, even if Ohshio et al. were combined with Estabrooks, the combination would still not teach or suggest all the features of claim 9. Claim 9 requires that the trailing edge of the last printed-on sheet stored on said rewind and the leading edge of each successive printed-on sheet received by said rewind to abut one to the other on the rewind. Neither the teachings nor the structure of Ohshio et al. provide for abutting each successive sheet to another on the rewind.

The Examiner, recognizing that Ohshio et al. does not teach abutting printed-on sheets on a rewind, further states that Kobayashi et al. discloses a rewind that receives printed-on sheets and that it would be obvious for one skilled in the art at the time the invention was made to modify the teaching of Estabrooks to include a rewind to receive the printed-on sheets from the printer.

Kobayashi et al. discloses a paper feeder for a label printer for printing on "continuous printing paper" (Abstract"), and a rewind for storing the output of the printer. Kobayashi et al., because it feeds continuous paper and not sheets of paper, can not possibly teach or suggest that a sensor signal be provided to a controller for detecting the leading edge of a printed on sheet for synchronizing the printer and the controller since there is no leading edge, nor can Kobayashi et al. teach or suggest abutting the edges of sheets of paper on a rewind since there are no edges to abut. Accordingly, Applicant submits that Kobayashi et al. does not make up for the deficiencies of Estabrooks and Ohshio et al.

In summary, the combination of Estabrooks, Ohshio et al. and Kobayashi et al., does not teach or suggest either an edge sensor which detects a leading edge of each printed-on sheet when output from a printer, or a controller which synchronizes a rewind and the printer to cause the leading edge and the trailing edge of successive sheets to abut one to the other on the rewind. Applicants therefore submit that the combination of Estabrooks, Ohshio et al. and

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Kobayashi et al. does not make claim 9 obvious. Accordingly Applicants respectfully request reconsideration and withdrawal of the §103 rejection of claim 9.

Claim 10 recites a sheet binder that attaches the leading and trailing edges of successive sheets one upon the other. The Examiner states that Ohshio et al. discloses a sheet binder that attaches successive sheets one upon the other and that it would be obvious for one skilled in the art at the time the invention was made to modify the teaching of Estabrooks by including the sheet binder disclosed by Ohshio et al.

The taping operation disclosed by Ohshio et al. is shown in Figs. 34 and 35. It is clear from Figs. 34 and 35 that the "ends" referred to by Ohshio et al. at col. 37, line 67 to col. 38, line 3 are not the leading and trailing edges of the veneer but rather, the sides of the veneer adjacent to the ends of the rollers. Further, the taping disclosed by Ohshio et al. does not attach the leading and trailing edges of successive sheets one upon the other, as recited in claim 10. As clearly shown in by the dashed lines in Fig. 35, which shows the tape T being attached to the veneer, the tape is spaced inwardly from the ends of the veneer sheets and thus could not possibly be used to attach one successive sheet to another. It is clear that the reference by Ohshio et al. to inserting the tape "between sheets" refers to inserting the tape between the layers of veneer and not to inserting the tape between successive end-to-end sheets.

Further, it is respectfully submitted that since claim 9 has been shown to be allowable, claims 10-12 dependent on claim 9 are allowable, at least by their dependency on claim 9. Accordingly, for all the above reasons, Applicant respectfully requests reconsideration and withdrawal of the § 103 rejection of claims 10-12.

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CONCLUSION

Insofar as the Examiner's rejections have been addressed, the application is in condition for allowance and Notice of Allowability of claims 9-12 is therefore earnestly solicited. Should the Examiner choose to issue an advisory action, Applicant respectfully requests that prior thereto, the Examiner telephone the undersigned at the telephone number indicated to discuss the application.

Respectfully submitted,

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(Date)

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